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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,179	08/26/2003	Yixin Diao	YOR920030088US1	4426
7590 Ryan, Mason & Lewis, LLP 90 Forest Avenue Locust Valley, NY 11560			EXAMINER OCHOA, JUAN CARLOS	
			ART UNIT 2123	PAPER NUMBER
			MAIL DATE 11/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/648,179

Applicant(s)

DIAO ET AL.

Examiner

Juan C. Ochoa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The request for continued examination filed 10/17/07 has been received and considered. In light of the IDS filed 10/17/07, claims 1–33 are presented for examination.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 10/17/07 has been entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1–33 are rejected under 35 U.S.C. 102(b) as being anticipated by Bigus et al., (Bigus hereinafter), AutoTune: A Generic Agent for Automated Performance Tuning.

5. As to claim 1, Bigus discloses a method of constructing a model representative of a resource for use in managing a service associated with the resource (see page 2, last paragraph, line 1 and page 3, 1st paragraph, lines 3–4), comprising the steps of: associating a resource abstract model with the resource, wherein the resource abstract model is configured to automatically determine a set of resource metrics to be used to construct a model representative of the resource such that a reduced set of resource metrics is considered (see page 11, lines 6–10), and constructing the model representative of the resource based on reduced the set of resource metrics obtained in accordance with the resource abstract model (see page 5, last paragraph and Fig. 3).
6. As to claim 2, Bigus discloses a method wherein the constructed model comprises a quantitative model (see page 5, last paragraph and Fig. 3).
7. As to claim 3, Bigus discloses a method wherein the resource abstract model is constructed by at least one individual with expertise associated with the resource (see “In the AutoTune application, administrators specify the policies used by the AutoTune agent” in page 3, last paragraph , line 1).
8. As to claim 4, Bigus discloses a method further comprising the step of obtaining one or more service level metrics for use in constructing the model representative of the resource (see page 4, lines 7–8).
9. As to claim 5, Bigus discloses a method wherein the one or more service level metrics are obtainable from one or more service level agreements. (See “Optimization and Regulator policies” in page 3, last paragraph).

10. As to claim 6, Bigus discloses a method further comprising the step of obtaining a topology of one or more resources used to deliver one or more services associated with the one or more service level agreements, including the resource for which the model is being constructed, for use in constructing the model representative of the resource (see page 18, last paragraph). As per the topology definition in (application description page 7, 4th paragraph), Examiner interprets “scheduling different classes of customers on a set of distributed, heterogeneous servers to globally minimize a linear function of the per-class mean response times” as minimal set of resources that may be used in service delivery and the flows between them.

11. As to claim 7, Bigus discloses a method wherein the resource is an element of an autonomic computing environment (see page 19, lines 3–8). As per the autonomic definition in (application description page 10, 1st paragraph), Examiner interprets “AutoTune, an agent-based approach to automated tuning ... An AutoTune enabled target system exposes metrics for workloads (e.g., RPC arrival rates), configuration (e.g., processor speeds), and service levels (e.g., response times) as well as a means to manipulate tuning controls (e.g., admission control parameters). Our approach is to construct a generic model of the target system (e.g., by training a neural network) and from this derive a controller” as one of the goals of autonomic computing is to automate some or all of the tasks an operator would typically carry out.

12. As to claim 8, Bigus discloses a method wherein the constructed model is useable for (i) reporting one or more service level metrics (see page 1, lines 5–7) and (ii) automating service level compliance (see page 13, line 11).

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13. As to claim 9, Bigus discloses a method further comprising the step of checking the accuracy of the constructed model (see page 6, next to last paragraph , last 3 lines).

14. As to claim 10, Bigus discloses a method wherein the accuracy checking step comprises use of change point detection (see page 6, next to last paragraph , last 3 lines).

15. As to claim 11, Bigus discloses an apparatus for constructing a model representative of a resource for use in managing a service associated with the resource, comprising: a memory; and at least one processor coupled to the memory and operative to (see page 14, line 12 and page 15, line 1): automatically determining, via a resource abstract model, a set of resource metrics to be used to construct a model representative of the resource such that a reduced set of resource metrics is considered (see page 11, lines 6–10) and constructing the model representative of the resource based on the reduced set of resource metrics obtained in accordance with the resource abstract model (see page 5, last paragraph and Fig. 3).

16. As to claims 12–19, these claims recite an apparatus for performing the method of claims 2 and 4–10. Bigus discloses an apparatus (see page 14, line 12 and page 15, line 1) for performing a method that anticipates claims 2 and 4–10. Therefore, claims 12–19 are rejected for the same reasons given above.

17. As to claim 20, Bigus discloses an article of manufacture for constructing a model representative of a resource for use in managing a service associated with the resource, comprising a machine readable medium containing one or more programs which when executed implement (see page 14, line 12 and page 15, lines 1–2) the

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steps of: automatically determining, via a resource abstract model, a set of resource metrics to be used to construct a model representative of the resource such that a reduced set of resource metrics is considered (see page 11, lines 6–10) and constructing the model representative of the resource based on the reduced set of resource metrics obtained in accordance with the resource abstract model (see page 5, last paragraph and Fig. 3).

18. As to claims 21–26, these claims recite an apparatus for performing the method of claims 2, 4–6, 8, and 9. Bigus discloses a machine-readable medium (see page 14, line 12 and page 15, lines 1–2) for performing a method that anticipates claims 2, 4–6, 8, and 9. Therefore, claims 21–26 are rejected for the same reasons given above.

19. As to claim 27, Bigus discloses a method of providing resource management services (see page 2, last paragraph, line 1 and page 3, 1st paragraph, lines 3–4), comprising the steps of: deploying one or more resource abstract models in association with one or more resources, (see page 2, last 2 lines and page 7, next to last paragraph, lines 1–2), wherein each of the one or more resource abstract models is configured to automatically determine a set of resource metrics to be used to construct a model representative of the resource such that a reduced set of resource metrics is considered (see page 11, lines 6–10); based on the one or more reduced sets of resource metrics obtained in accordance with the one or more resource abstract models, constructing one or more models representative of the one or more resources (see page 5, last paragraph and Fig. 3); and using the one or more constructed models to manage the one or more resources (see page 1, 3rd paragraph, lines 1–3).

20. As to claim 28, Bigus discloses a method further comprising the step of obtaining one or more service level metrics for use in constructing the one or more models representative of the one or more resources (see page 4, lines 7–8).

21. As to claim 29, Bigus discloses a method wherein the one or more service level metrics are obtainable from one or more service level agreements. (See “Optimization and Regulator policies” in page 3, last paragraph).

22. As to claim 30, Bigus discloses a method further comprising the step of obtaining a topology of one or more resources used to deliver one or more services associated with the one or more service level agreements, including the resource for which the model is being constructed, for use in constructing the model representative of the resource (see page 18, last paragraph). As per the topology definition in (application description page 7, 4th paragraph), Examiner interprets “scheduling different classes of customers on a set of distributed, heterogeneous servers to globally minimize a linear function of the per-class mean response times” as minimal set of resources that may be used in service delivery and the flows between them.

23. As to claim 31, Bigus discloses a method wherein the resource is an element of an autonomic computing environment (see page 19, lines 3–8). As per the autonomic definition in (application description page 10, 1st paragraph), Examiner interprets “AutoTune, an agent-based approach to automated tuning ... An AutoTune enabled target system exposes metrics for workloads (e.g., RPC arrival rates), configuration (e.g., processor speeds), and service levels (e.g., response times) as well as a means to manipulate tuning controls (e.g., admission control parameters). Our approach is to

construct a generic model of the target system (e.g., by training a neural network) and from this derive a controller” as one of the goals of autonomic computing is to automate some or all of the tasks an operator would typically carry out.

24. As to claim 32, Bigus discloses a method wherein the constructed model is useable for (i) reporting one or more service level metrics (see page 1, lines 5–7) and (ii) automating service level compliance (see page 13, line 11).

25. As to claim 33, Bigus discloses a method further comprising the step of checking the accuracy of the one or more constructed models (see page 6, next to last paragraph, last 3 lines).

Conclusion

26. Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

28. Bigus et al., ABLE: A toolkit for building multiagent autonomic systems, teaches associating a resource abstract model with the resource, wherein the resource abstract model is configured to automatically determine a set of resource metrics to be used to construct a model representative of the resource such that a reduced set of resource metrics is considered (see page 359, col. 1, lines 1–10).

29. Diao et al., Generic On-Line Discovery of Quantitative Models for Service Level Management (see IDS dated 10/17/07), teaches associating a resource abstract model

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with the resource, wherein the resource abstract model is configured to automatically determine a set of resource metrics to be used to construct a model representative of the resource such that a reduced set of resource metrics is considered (see page 14, last paragraph, lines 1-5).

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan C. Ochoa whose telephone number is (571) 272-2625. The examiner can normally be reached on 7:30AM - 4:00 PM.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JP 10/20/07

Paul Rodriguez
PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100